



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6
HOUSTON BRANCH
10625 FALLSTONE RD.
HOUSTON, TEXAS 77099

MEMORANDUM

Date: March 8, 2001

Subject: Contract Laboratory Program Data Review

From: *Marvelyn Humphrey*, Alternate ESAT RPO, 6MD-HC

To: B. Rhotenberry, 6SF-RA

Site : GULFCO MARINE

Case#: 28927

SDG# : MF02C8

The EPA Region 6 Houston Branch ESAT data review team has completed a review of the submitted Contract Laboratory Program (CLP) data package for the referenced site. The samples analyzed and reviewed are detailed in the attached Regional data review report.

The data package is acceptable for regional use. Problems, if any, are listed in the report narrative.

If you have any questions regarding the data review report, please call me at (281) 983-2140.

Attachments

cc: R. Flores, Region 6 CLP/TPO
M. El-Feky, Region 6 Data Coordinator
Files (2)

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LOCKHEED MARTIN SERVICES GROUP
ESAT REGION VI
10101 SOUTHWEST FREEWAY, SUITE 500
HOUSTON, TEXAS 77074

MEMORANDUM

DATE: March 2, 2001

TO: Melvin Ritter/Marvelyn Humphrey, ESAT RPO/Alternate RPO, Region VI

FROM: Tom Chiang, ESAT Team Manager, Region VI *Jan Ch. LL*

SUBJECT: CLP Data Review

REF: TDF #6-1100A ESAT File No. I2484
 ESAT Contract No. 68-D6-0005

Attached is the data review summary for Case # 28927
 SDG # MF02C8
 Site Gulfco Marine

COMMENTS:

I. CONTRACTUAL ASSESSMENT OF DATA PACKAGE:

- A. Hard copy review detected the following contractually noncompliant items that were not reported by CCS.
1. The laboratory reported several sodium CCV recoveries that were above the contract-required limit (ILM04.0, E-18, Table 1). As a result, the reviewer qualified the sodium results for six samples.
 2. The laboratory reported a noncompliant sodium CCB (ILM04.0, E-19, 4.a). The reviewer qualified the sodium results for five samples because of the noncompliance.
- B. Hard copy review detected the following noncompliant item that CCS is not expected to detect.
- The laboratory failed to contact SMO regarding two samples of the same matrix being designated for QC analyses (ILM04.1, Summary of Changes, page 1-3 of 12, Exhibit A, Section II, Task III, Part H). The sample results were not technically affected.

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MEMORANDUM, continued

Attached is the data review summary for Case # 28927
SDG # MF02C8
Site Gulfco Marine

II. TECHNICAL/USABILITY ASSESSMENT OF DATA PACKAGE:

A total of 480 results were reviewed for this data package. Some results have been qualified because of technical problems. The significant problems are stated below.

- A. Some cadmium and chromium results were affected by laboratory blank concentrations.
- B. The mercury matrix spike recovery was below the QC limit.
- C. Two arsenic analyses had inconsistent instrument readings.
- D. Two chromium and two lead analyses had high negative instrument readings.

III. OTHER AREA OF CONCERN:

The sampler failed to include a cooler temperature indicator bottle in one sample cooler.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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 HOUSTON BRANCH
 10625 FALLSTONE ROAD
 HOUSTON, TEXAS 77099

INORGANIC REGIONAL DATA ASSESSMENT

CASE NO. <u>28927</u>	SITE <u>Gulfco Marine</u>
LABORATORY <u>SENTIN</u>	NO. OF SAMPLES <u>20</u>
CONTRACT# <u>68-WO-0085</u>	MATRIX <u>WATER</u>
SDG# <u>MF02C8</u>	REVIEWER (IF NOT ESD) <u>ESAT</u>
SOW# <u>ILM04.1</u>	REVIEWER'S NAME <u>S. Meekins</u>
ACCT# <u>150102DJN23</u> SF# <u>50102DJZ</u>	COMPLETION DATE <u>March 2, 2001</u>

SAMPLE NO.	<u>MF02C3</u>	<u>MF02C8</u>	<u>MFHX50</u>	<u>MFJP70</u>	<u>MFJP87</u>
	<u>MF02C4</u>	<u>MF02C9</u>	<u>MFJD80</u>	<u>MFJP71</u>	<u>MFJP88</u>
	<u>MF02C6</u>	<u>MF02D0</u>	<u>MEJD94</u>	<u>MFJP85</u>	<u>MFJP90</u>
	<u>MF02C7</u>	<u>MF02D1</u>	<u>MFJD95</u>	<u>MFJP86</u>	<u>MFJP91</u>

DATA ASSESSMENT SUMMARY

	ICP	HG	CYANIDE
1. HOLDING TIMES	<u>O</u>	<u>O</u>	<u>O</u>
2. CALIBRATIONS	<u>M</u>	<u>O</u>	<u>O</u>
3. BLANKS	<u>M</u>	<u>O</u>	<u>O</u>
4. MATRIX SPIKES	<u>O</u>	<u>M</u>	<u>O</u>
5. DUPLICATE ANALYSIS	<u>O</u>	<u>O</u>	<u>O</u>
6. ICP QC	<u>M</u>		
7. FAA QC			
8. LCS	<u>O</u>	<u>N/A</u>	<u>N/A</u>
9. SAMPLE VERIFICATION	<u>O</u>	<u>O</u>	<u>O</u>
10. OTHER QC	<u>O</u>	<u>O</u>	<u>O</u>
11. OVERALL ASSESSMENT	<u>M</u>	<u>M</u>	<u>O</u>

O = Data had no problems.

M = Data qualified because of major or minor problems.

Z = Data unacceptable.

N/A= Not applicable

ACTION ITEMS: The laboratory reported a noncompliant sodium CCB and several noncompliant sodium CCV's.

AREAS OF CONCERN: The laboratory failed to contact SMO about two samples designated for QC analyses. Blank concentrations affected some barium, cadmium, chromium, magnesium, manganese, nickel, potassium, sodium, and vanadium results. The mercury matrix spike recovery was below 75 percent. The calcium serial dilution difference was above 10 percent. Two arsenic analyses had coefficients of variation greater than 20 percent. Two chromium and two lead analyses had high negative instrument readings.

NOTABLE PERFORMANCE: The laboratory submitted the package three calendar days early.

COMMENTS/CLARIFICATIONS
REGION 6 CLP QA REVIEW

Case 28927 SDG MF02C8 Site Gulfco Marine Lab SENTIN

COMMENTS: The SDG consisted of 20 water samples for total metals and cyanide analyses by ILM04.1. The sampler designated sample MF02C9 and MFJD95 as QC samples and samples MF02C6/MFHX50 and MF02C8/MFJP85 as field duplicate pairs. Since the SOW requires QC analyses for only one sample per matrix per SDG, the laboratory performed QC analyses only on sample MFJD95. Samples MF02D1, MFJP90, and MFJP91 are field blanks, and samples MFJP86, MFJP87, and MFJP88 are rinsates. The laboratory met the 21-day data package turnaround time requirement. The reviewer noted the following contractually noncompliant items.

- The laboratory submitted three noncompliant sodium CCV analyses.
- The laboratory submitted a noncompliant sodium CCB analysis.
- The laboratory did not contact SMO about choosing a laboratory QC sample.

The laboratory diluted 14 samples 100X because the calcium, magnesium, and sodium concentrations were over the linear ranges. Thirty-nine percent of the reported results were above the CRDL's. Some results were qualified because of problems with calibrations, blank concentrations, a matrix spike recovery, a serial dilution difference, inconsistent instrument readings, and negative instrument readings. The technical usability of all reported results is indicated in the Data Summary Table (DST). An Evidence Audit was conducted for the Complete Sample Delivery Group File (CSF), and the results were recorded in the Evidence Inventory Checklist.

NOTE: THE FOLLOWING REVIEW NARRATIVE ADDRESSES BOTH CONTRACTUAL ISSUES (BASED ON THE STATEMENT OF WORK) AND TECHNICAL ISSUES (BASED ON THE NATIONAL FUNCTIONAL GUIDELINES). THE ASSESSMENT MADE FOR EACH QC PARAMETER IS SOLELY BASED ON THE TECHNICAL DATA USABILITY, WHICH MAY NOT NECESSARILY BE AFFECTED BY CONTRACTUAL PROBLEMS. THE ASSESSMENTS ARE DEFINED BELOW.

Acceptable = No results were qualified for any problems associated with this QC parameter.

Provisional = Some results were qualified because of problems associated with this QC parameter.

Unusable = All results are unusable because of major problems associated with this QC parameter.

1. **Holding Times:** Acceptable. All samples met contractual and technical holding time criteria. The laboratory reported a cooler temperature of 7.5°C, which is above the required 4°C ($\pm 2^{\circ}\text{C}$) for cyanide samples. Since the temperature was not excessive, the sample results were not affected. Sample preservation was acceptable.

**INORGANIC QA REVIEW
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Case 28927 SDG MF02C8 Site Gulfco Marine Lab SENTIN

2. **Calibrations:** Provisional. The calibrations met contractual requirements with a few exceptions. The laboratory reported three sodium CCV recoveries outside the control limits (133.6%, 128.1%, and 121.5%). As a result, the reviewer qualified the sodium results for samples MF02D1, MFJP86, MFJP87, MFJP88, MFJP90, and MFJP91 as estimated and biased high.
3. **Blanks:** Provisional. The preparation and most calibration blanks met contractual requirements although the laboratory reported 16 analytes in the blanks. The laboratory reported one noncompliant sodium CCB. The reviewer qualified the chromium result for sample MFJD80 as biased high and the following results as undetected because of laboratory blank concentrations:

the barium result for sample MFJP87;

the cadmium results for samples MF02C8, MFJD95, and MFJP88;

the chromium results for samples MF02C3 and MFJP86;

the magnesium results for samples MFJP86, MFJP87, and MFJP88;

the manganese results for samples MFJP90 and MFJP91;

the nickel results for samples MFJP71, MFJP86, MFJP87, and MFJP88;

the potassium results for samples MF02D1, MFJP86, MFJP87, MFJP88, MFJP90, and MFJP91; and

the vanadium result for sample MF02C4.

Field blanks: Field blank samples MF02D1, MFJP90, and MFJP91 contained calcium, manganese, potassium, and sodium at concentrations below the CRDL's. The manganese, potassium, and sodium concentrations reported in the field blanks were due to laboratory contamination. The calcium concentration in field blank sample MF02D1 did not affect any sample results.

Rinsates: The laboratory reported concentrations of barium, calcium, cadmium, chromium, copper, iron, magnesium, manganese, nickel, potassium, sodium, and zinc in the rinsate samples MFJP86, MFJP87, and MFJP88. The sodium

**INORGANIC QA REVIEW
CONTINUATION PAGE**

Case 28927 SDG MF02C8 Site Gulfco Marine Lab SENTIN

result for sample MFJP86, the zinc result for sample MFJP87, and the iron and manganese results for all rinsate samples, were above the CRDL's. The barium, cadmium, chromium, magnesium, nickel, potassium, and sodium concentrations in the rinsates were due to laboratory blank concentrations. Assessment for sampling equipment contamination can not be performed because information associating the samples with the rinsate is not available.

4. **Pre-digestion/Pre-distillation Matrix Spike Recovery:** Provisional. The laboratory reported outlying matrix spike recoveries for antimony and mercury. The mercury matrix spike recovery was below the QC limit, so the reviewer qualified the mercury results as estimated and low biased. The field blank and rinsate samples were not included in this evaluation because matrix effects are not expected in such samples. The antimony matrix spike recovery was only marginally below the QC limit, so no antimony results were qualified.
5. **Duplicate Analysis:** Acceptable. The laboratory reported a lead duplicate difference that was only marginally above the technical QC limit, so the reviewer did not qualify the lead results.
6. **ICP Quality Control:**

Serial Dilution: Provisional. The laboratory reported outlying serial dilution differences for aluminum and calcium, so the reviewer qualified as estimated the aluminum and calcium sample results. The serial dilution results were higher than the undiluted results, indicating that matrix interferences suppressed the signals for these analytes. Therefore, the reviewer also qualified the aluminum and calcium results as low biased. The iron serial dilution difference was only marginally above the QC limit, so no iron results were qualified. The field blank and rinsate samples were not included in this evaluation because matrix effects are not expected in such a sample.

Interference Check Sample (ICS): Acceptable. Acceptable ICS results indicated satisfactory interelement and background corrections.

Coefficient of Variation: Provisional. The reviewer qualified as estimated the arsenic results for samples MFJD95 and MFJP70 because of inconsistent instrument readings.

Negative Instrument Readings: Provisional. The reviewer qualified the chromium and lead results for sample MF02C8

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INORGANIC QA REVIEW
CONTINUATION PAGE

Case 28927 SDG MF02C8 Site Gulfco Marine Lab SENTIN

and MFJP85 because of high negative instrument readings (> 2X CRDL's).

7. **Furnace Atomic Absorption Quality Control:** Not Applicable.
8. **Laboratory Control Sample (LCS):** Acceptable. Acceptable LCS results indicated satisfactory sample preparation and analysis.
9. **Sample Verification:** Acceptable. The laboratory was contacted about some reporting problems and contractual issues (see FAX Record Log).
10. **Other QC:**
Field Duplicates: Acceptable. Field duplicate results were consistent.
11. **Overall Assessment:** Sample result qualifications are summarized below.

The reviewer qualified six sodium results because of high CCV recoveries.

The reviewer qualified one barium, three cadmium, three chromium, three magnesium, two manganese, four nickel, six potassium, one vanadium, and five sodium results because of laboratory blank effects.

The reviewer qualified 14 aluminum, 14 calcium, 2 chromium, 2 lead, and 14 mercury results because of matrix related problems.

The reviewer qualified two arsenic results because of inconsistent instrument readings.

INORGANIC DATA QUALIFIER DEFINITIONS

The following definitions provide brief explanations of the ESAT-Region 6 qualifiers assigned to results in the inorganic data review process.

- U** Undetected at the laboratory reported detection limit (IDL).
- L** Reported concentration is between the IDL and the CRDL.
- J** Result is estimated because of outlying quality control parameters such as matrix spike, serial dilution, FAA spike recovery, etc.
- R** Result is unusable.
- F** A possibility of a false negative exists.
- UC** Reported concentration should be used as a raised detection limit because of apparent blank contamination.
- ^** High bias. Actual concentration may be lower than the concentration reported.
- v** Low bias. Actual concentration may be higher than the concentration reported.

INORGANIC DATA SUMMARY

Case No.: 28927

SDG: MF02C8

Reviewer: S. Meekins

Laboratory: SENTIN

Matrix: Water

Units: ug/L

EPA Sample #=>	MFHX50		MFJD80		MFJD94		MFJD95		MFJP70		MFJP71		MFJP85	
	RESULT	FLAG	RESULT	FLAG	RESULT	FLAG	RESULT	FLAG	RESULT	FLAG	RESULT	FLAG	RESULT	FLAG
ALUMINUM	130000	Jv	39500	Jv	51100	Jv	39400	Jv	28800	Jv	11800	Jv	1380	Jv
ANTIMONY	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
ARSENIC	77.7		12.4		49.3		9.6	LJ	8.0	LJ	9.1	L	15.8	
BARIUM	501		401		292		340		348		121	L	69.0	L
BERYLLIUM	3.7	LJv	0.60	LJv	1.7	LJv	0.70	LJv	0.40	U	0.40	U	0.40	U
CADMIUM	2.2	L	1.0	L	2.0	L	0.90	LUC	0.60	L	0.40	U	0.60	L
CALCIUM	807000	Jv	696000	Jv	883000	Jv	665000	Jv	830000	Jv	540000	Jv	1410000	Jv
CHROMIUM	77.4		13.4	Jv	23.0		18.3		1.6	U	1.6	U	1.6	U Jv
COBALT	66.9		1.8	U	17.9	LJv	1.8	U	1.8	U	1.8	U	1.8	U
COPPER	273		40.4		114		45.4		22.6	L	26.4		3.7	L
IRON	103000		25900		52800		41200		31900		13700		25100	
LEAD	94.7		7.8		70.4		15.2		2.5	U	2.5	U	2.5	U Jv
MAGNESIUM	1420000		1710000		1450000		1190000		2020000		1040000		2250000	
MANGANESE	8460		4300		8190		2370		4320		2810		7910	
MERCURY	0.79	Jv	0.10	U Jv	0.11	LJv	0.26	Jv	0.10	U Jv	0.70	Jv	0.10	U Jv
NICKEL	217		40.8		69.6		34.6	L	23.4	L	10.8	LUC	3.1	L
POTASSIUM	274000		366000		250000		297000		372000		163000		226000	
SELENIUM	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
SILVER	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U
SODIUM	10000000		14000000		10100000		9740000		14200000		8550000		14800000	
THALLIUM	3.6	U	3.6	U	3.6	U	3.6	U	3.6	U	3.6	U	3.6	U
VANADIUM	196		58.2		98.0		52.6		37.0	L	16.1	LJv	1.7	U
ZINC	201		81.6		109		136		108		25.9		10.2	L
CYANIDE	2.1	L	1.4	U	1.4	U	2.6	L	1.4	U	1.4	U	1.4	U

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INORGANIC DATA SUMMARY

Case No. : 28927

SDG : MF02C8

Reviewer : S. Meekins

Laboratory : SENTIN

Matrix : Water

Units : ug/L

EPA Sample #=>	MFJP86		MFJP87		MFJP88		MFJP90		MFJP91		MF02C3		MF02C4	
	RESULT	FLAG	RESULT	FLAG	RESULT	FLAG	RESULT	FLAG	RESULT	FLAG	RESULT	FLAG	RESULT	FLAG
ALUMINUM	48.9	U	48.9	U	48.9	U	48.9	U	48.9	U	22200	Jv	9290	Jv
ANTIMONY	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
ARSENIC	2.3	U	2.3	U	2.3	U	2.3	U	2.3	U	10.2		42.6	
BARIUM	0.90	U	3.8	LUC	0.90	U	0.90	U	0.90	U	593		108	L
BERYLLIUM	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
CADMIUM	0.40	U	0.40	U	0.40	LUC	0.40	U	0.40	U	0.80	L	1.3	L
CALCIUM	712	L	1030	L	461	L	158	U	158	U	583000	Jv	858000	Jv
CHROMIUM	2.0	LUC	1.6	U	1.6	U	1.6	U	1.6	U	11.2	UC	1.6	U
COBALT	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U
COPPER	3.5	L	2.3	U	2.3	U	2.3	U	2.3	U	42.6		22.3	L
IRON	1420		4830		7780		26.4	U	26.4	U	38500		21900	
LEAD	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	20.3		2.5	U
MAGNESIUM	129	LUC	149	LUC	99.0	LUC	38.6	U	38.6	U	870000		1560000	
MANGANESE	45.1		235		268		1.8	LUC	1.9	LUC	2010		14100	
MERCURY	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U Jv	0.10	U Jv
NICKEL	2.2	LUC	4.4	LUC	4.0	LUC	2.0	U	2.0	U	30.9	L	17.2	LJ^
POTASSIUM	131	LUC	100	LUC	67.9	LUC	60.6	LUC	56.6	LUC	179000		249000	
SELENIUM	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	2.0	L
SILVER	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U
SODIUM	470000	J^	3940	LUCJ^	4040	LUCJ^	3790	LUCJ^	3820	LUCJ^	7490000		11400000	
THALLIUM	3.6	U	3.6	U	3.6	U	3.6	U	3.6	U	3.6	U	3.6	U
VANADIUM	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	53.7		14.4	LUC
ZINC	7.8	L	23.4		13.8	L	4.5	U	4.5	U	59.8		18.3	L
CYANIDE	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U

INORGANIC DATA SUMMARY

Case No. :	28927	SDG :	MF02C8	Reviewer :	S. Meekins
Laboratory :	SENTIN	Matrix :	Water	Units :	ug/L

EPA Sample #=>	MF02C6		MF02C7		MF02C8		MF02C9		MF02D0		MF02D1	
	RESULT	FLAG	RESULT	FLAG	RESULT	FLAG	RESULT	FLAG	RESULT	FLAG	RESULT	FLAG
ALUMINUM	118000	Jv	45100	Jv	1290	Jv	56800	Jv	24400	Jv	48.9	U
ANTIMONY	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
ARSENIC	70.6		10.2		15.8		19.0		12.2		2.3	U
BARIUM	468		260		63.5	L	509		178	L	0.90	U
BERYLLIUM	3.4	LJv	0.80	LJv	0.40	U	1.6	LJv	0.40	LJv	0.40	U
CADMIUM	2.4	L	0.40	L	0.80	LUC	1.0	L	0.60	L	0.40	U
CALCIUM	815000	Jv	113000	Jv	1420000	Jv	627000	Jv	385000	Jv	173	L
CHROMIUM	67.2		43.4		1.6	U Jv	34.0		14.8		1.6	U
COBALT	60.6		17.4	L	1.8	U	11.8	L	4.2	L	1.8	U
COPPER	266		36.4		3.0	L	71.6		46.0		2.3	U
IRON	95100		38000		25500		52200		27000		26.4	U
LEAD	86.4		24.4		2.5	U Jv	45.1		15.7		2.5	U
MAGNESIUM	1370000		89200		2240000		1140000		577000		38.6	U
MANGANESE	8660		1360		7760		3410		1490		0.70	U
MERCURY	0.71	Jv	0.10	U Jv	0.10	U Jv	0.13	LJv	0.12	LJv	0.10	U
NICKEL	216		46.8		3.2	L	61.4		31.2	L	2.0	U
POTASSIUM	281000		62500		217000		256000		187000		66.7	LUC
SELENIUM	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
SILVER	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U
SODIUM	9780000		1110000		14800000		9470000		5650000		3910	LUC
THALLIUM	3.6	U	3.9	L	3.6	U	3.6	U	3.6	U	3.6	U
VANADIUM	178		64.9		1.7	U	90.8		44.0	L	1.7	U
ZINC	178		107		8.7	L	147		79.4		4.5	U
CYANIDE	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U

INORGANIC/ORGANIC COMPLETE SDG FILE (CSF) INVENTORY CHECKLIST

Case No.	28927	SDG No.	MF02C8	SDG Nos. To Follow	SAS No.	Date Rec	02/16/01
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<p>EPA Lab ID: SENTIN</p> <p>Lab Location: Huntsville, AL</p> <p>Region: 6 Audit No.: 28927/MF02C8</p> <p>Re_Submitted CSF? Yes _____ No <input checked="" type="checkbox"/></p> <p>Box No(s): 1</p> <p>COMMENTS:</p> <p>8. Record of communications (pp. 367-369) indicates a temperature indicator bottle was not present in the cooler received on 01/29/01, but Form DC-1 (p. 348) indicates a cooler temperature bottle was present.</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">ORIGINALS</td> <td style="width: 15%;">YES</td> <td style="width: 15%;">NO</td> <td style="width: 15%;">N/A</td> </tr> <tr> <td colspan="4">CUSTODY SEALS</td> </tr> <tr> <td>1. Present on package?</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td>2. Intact upon receipt?</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td colspan="4">FORM DC-2</td> </tr> <tr> <td>3. Numbering scheme accurate?</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td>4. Are enclosed documents listed?</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td>5. Are listed documents enclosed?</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td colspan="4">FORM DC-1</td> </tr> <tr> <td>6. Present?</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td>7. Complete?</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td>8. Accurate?</td> <td></td> <td>X</td> <td></td> </tr> <tr> <td colspan="4">CHAIN-OF-CUSTODY RECORD(s)</td> </tr> <tr> <td>9. Signed?</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td>10. Dated?</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td colspan="4">TRAFFIC REPORT(s) PACKING LIST(s)</td> </tr> <tr> <td>11. Signed?</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td>12. Dated?</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td colspan="4">AIRBILLS/AIRBILL STICKER</td> </tr> <tr> <td>13. Present?</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td>14. Signed?</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td>15. Dated?</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td colspan="4">SAMPLE TAGS</td> </tr> <tr> <td>16. Does DC-1 list tags as being included?</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td>17. Present?</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td colspan="4">OTHER DOCUMENTS</td> </tr> <tr> <td>18. Complete?</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td>19. Legible?</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td>20. Original?</td> <td></td> <td>X</td> <td></td> </tr> <tr> <td>20a. If "NO", does the copy indicate where original documents are located?</td> <td>X</td> <td></td> <td></td> </tr> </table>	ORIGINALS	YES	NO	N/A	CUSTODY SEALS				1. Present on package?	X			2. Intact upon receipt?	X			FORM DC-2				3. Numbering scheme accurate?	X			4. Are enclosed documents listed?	X			5. Are listed documents enclosed?	X			FORM DC-1				6. Present?	X			7. Complete?	X			8. Accurate?		X		CHAIN-OF-CUSTODY RECORD(s)				9. Signed?	X			10. Dated?	X			TRAFFIC REPORT(s) PACKING LIST(s)				11. Signed?	X			12. Dated?	X			AIRBILLS/AIRBILL STICKER				13. Present?	X			14. Signed?	X			15. Dated?	X			SAMPLE TAGS				16. Does DC-1 list tags as being included?	X			17. Present?	X			OTHER DOCUMENTS				18. Complete?	X			19. Legible?	X			20. Original?		X		20a. If "NO", does the copy indicate where original documents are located?	X		
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Over for additional comments.

Audited by: Sonya Meekins

Audited by:

Audited by:

Sonya Meekins / ESAT Data Reviewer

Date 02/22/01

Date

Date

Signature

Printed Name/Title

TO BE COMPLETED BY CEAT

Date Recvd by CEAT: _____

Date Entered: _____

Date Reviewed: _____

Entered by: _____

Reviewed by: _____

Signature

Printed Name/Title

DC-2

In Reference to Case No(s):
28927 SDG: MF02C8 (I2484)

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM
FAX Record Log

Laboratory Name: SENTIN
Lab Contact: Beverly Kilgore

Region: 6
Regional Contact: Mahmoud El-Feky - EPA
ESAT Data Reviewer: Sonya Meekins

FAX initiated by: Laboratory Region

Summary of Questions/Issues:

ISSUES AFFECTING DATA CONTRACTUAL COMPLIANCE

1. The analyses for the noncompliant sodium CCV's were not X'd on Form 14 (pp. 58-59) although the results for these analyses were reported on Form 2 (pp. 23-25). Please resubmit Form 14 (pp. 58-59) with the sodium results for CCV analysis times 14:06, 16:00, and 17:26, X'd.
2. The analyses for the noncompliant sodium CCB was not X'd on Form 14 (p. 59) although the result for this analysis was reported on Form 3 (p. 32). Please resubmit Form 14 (p. 59) with the sodium result for CCB analysis time 16:05, X'd.
3. The SOW requires that SMO be contacted when the sampler designates two samples as QC for the same matrix (ILM04.1, Summary of Changes, page 1-3 of 12, Exhibit A, Section II, Task III, Part H, 2nd to last sentence). This requirement was not met for samples MF02C9 and MFJD95, which were both designated for QC. Please explain this contractual deviation.
4. Please explain why sample MF02C9 was not used for QC analyses as instructed by the Region (page 363).
5. The record of communications on pages 367 - 369 indicate that a temperature indicator bottle was not present in the cooler received on 01/29/01, but Form DC-1 (p. 348) indicates a cooler temperature bottle was present. Please correct the discrepancy and resubmit Form DC-1.

NOTE: Any laboratory resubmission should be submitted either as an addendum to the original CSF with a revised Form DC-2 or submitted as a new CSF with a new Form DC-2 (ILM04.0, B-14), except those containing only replacement pages. Custody seals are required form all CSF resubmission shipments.

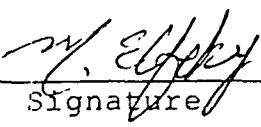
FAX COMMUNICATION LOG

Continuation Page 2
Laboratory/Contact Beverly Kilgore/SENTIN
In Reference To Case No.: 28927 SDG: MF02C8

Please respond to the above items. Region 6 resubmissions may be included with CCS response or sent separately within 4 days (Summary of Changes ILM04.1, Page 1-5 of 12, Exhibit B, Section II) to:

Mr. Mahmoud El-Feky
U.S. EPA Region 6 Laboratory
10625 Fallstone Road
Houston, TX 77099

If you have any questions, please contact me at (713) 988-2128.


Signature

3-2-01

Date

Distribution: (1) Lab Copy, (2) Region Copy, (3) ESAT Copy



United States Environmental Protection Agency
Contract Laboratory Program

Inorganic Traffic Report
& Chain of Custody Record
(For Inorganic CLP Analysis)

Case No.

28927

1. Project Code	2. Account Code			3. Region No.	Sampling Co.	5. Date Shipped	Carrier		<p>7. Matrix (Enter In Column A)</p> <ol style="list-style-type: none"> Surface Water Ground Water Leachate Field Soil/Sediment Oil (High only) Waste (High only) Other (specify in Column D) <p>8. Preservative (Enter In Column D)</p> <ol style="list-style-type: none"> HCl HNO3 NaOH H₂SO₄ K₂Cr₂O₇ Ice only Other (specify in Column D) N. Not Preserved 						
Regional Information				Sampler (Name)			Airbill Number								
				JOHN SYER			2952389333								
Non-Superfund Program				Sampler Signature			6. Ship To:								
				John Syer			SENTINEL								
Site Name				4. Purpose*			Early Action	Long-Term Action							
GULF CO MARINE Monitor				Lead	CLEN	FS									
				SF	PA	RD									
				PRP	REN	RA									
				ST	SI	O&N									
				FED	ESI	NPLD									
				116 WASHINGTON STREET, NE			ATTN: KIMBERLY HAYES (256) 534-9800								
				HUNTSVILLE, AL 35801											
City, State		Site Spill ID													
FREEPORT, TX															
CLP Sample Numbers (from labels)	A	Matrix (from Box 7)	B	Conc.: Low Med High	C	Sample Type: Comp./ Grab	D	Preservative (from Box 8)	E - RAS Analysis	F	G	H	I	J	K
		Other:								Regional Specific Tracking Number or Tag Numbers	Station Location Identifier	Mo/Day/ Year/Time Sample Collection	Corresponding CLP Organic Sample No.	Sampler Initials	Field QC Qualifier
MFJPT1	2	LOW GRAB	2,3	XX					6-190385 - 386	GW-10	1/24/01 15:17	FGK84	JK	—	
MF02C7	2	LOW GRAB	2,3	XX					6-191342 - 343	GW-11	1/25/01 07:29	F05110	JS	—	
MFJP88	4	LOW GRAB	2,3	XX					6-190424 - 425	GW-18	1/24/01 15:00	FGK92	J.S.	R	
MFJD80	2	LOW GRAB	2,3	XX					6-190365 - 366	GW-06	1/25/01 09:00	FGK80	JS	—	
MFJD94	2	LOW GRAB	2,3	XX					6-190370 - 371	GW-07	1/25/01 10:18	FGK81	JS	—	
MFJP91	4	LOW GRAB	2,3	XX					6-190439 - 440	GW-21	1/25/01 12:07	F02KL	JS	B	
MFHX50	2	LOW GRAB	2,3	XX					6-190338 - 339	GW-01	1/25/01 13:54	FGK62	JS	—	
MF0ACT6	2	LOW GRAB	2,3	XX					6-190370 - 371	GW-05	1/25/01 13:39	FGK61	JS	—	
MF02CB	2	LOW GRAB	2,3	XX					6-191337 - 338	GW-05	1/25/01 13:59	F05G9	JS	D(MFHX50)	
Shipment for Case Complete? (Y/N)	Page <u>1</u> of <u>1</u>	Sample(s) to be Used for Laboratory QC					Additional Sampler Signatures <i>John Syer</i>			Chain of Custody Seal Number(s)					

Chain of Custody Record

Relinquished by: (Signature) <i>John Syer</i>	Date / Time 1/25/01 16:00	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks: Is custody seal intact? Y/N/none	

Distribution:

in - Region Copy
/la - Lab Copy for Return to Region
Pink - CLASS Copy
Yellow - Lab Copy for Return to CLASS

See Reverse for Additional Standard Instructions
*See Reverse for P-Code Definitions

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United States Environmental Protection Agency
Contract Laboratory Program

Inorganic Traffic Report
& Chain of Custody Record
(For Inorganic CLP Analysis)

Case No.

28927

1. Project Code	Account Code		2. Region No.	Sampling Co.	4. Date Shipped	Carrier	6. Matrix (Enter in Column A)	7. Preservative (Enter in Column D)						
			6	TWRC	1-24-01	Airborne Express								
Regional Information			Sampler (Name) <i>JOHN SWER</i>		Airbill Number <i>2952390534</i>									
Non-Superfund Program			Sampler Signature <i>John Swer</i>		5. Ship To SENTINEL 116 Washington Street, NE Huntsville, AL 35801 ATTN: Kimberly Hayes (256) 534-7800									
Site Name <i>Gulfco Marine Maintenance</i>			3. Purpose* Early Action Lead <input checked="" type="checkbox"/> SF <input type="checkbox"/> PRP <input type="checkbox"/> ST <input type="checkbox"/> FED		Long-Term Action CLEM PA REM RI SI O&M ESI NPLD									
City, State <i>Freeport, TX</i>			Site Spill ID											
CLP Sample Numbers (from labels)	A Matrix (from Box 6) Other:	B Conc. Low Med High	C Sample Type: Comp./ Grab	D Preser- valive (from Box 7) Other:	E - RAS Analysis			F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Organic Sample No.	J Sampler Initials	K Field QC Qualifier B = Blank S = Spike D = Duplicate R = Rinsate PE = Perform Eval — = Not a QC Sample	
MEJP86			4	Low	GCAB	2/3	X	X		6-190414-415	GW-16	1/23/01 9:15	FGK91	JK R
MF02C9			2	Low	GRAB	2/3	X	X		6-191260-263	GW-13	1/23/01 14:20	F0512	JS —
MF01C8			2	Low	GRAB	2/3	X	X		6-191317-348	GW-12	1/23/01 15:32	F05H1	JS —
MFJPB7			4	Low	GRAB	2/3	X	X		6-190419-420	GW-17	1/24/01 08:15	FGK91	JS R
Shipment for Case Complete? (Y/N)			Page	Sample(s) to be Used for Laboratory QC				Additional Sampler Signatures			Chain of Custody Seal Number(s)			
<i>Y</i>			<i>1</i> of <i>1</i>	<i>MF02C9</i>				<i>John Swer</i>						

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature) <i>John Swer</i>	Date / Time 1/24/01 12:00	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	Is custody seal intact? Y/N/none

DISTRIBUTION:

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White - Lab Copy for Return to Region

Pink - CLASS Copy

Yellow - Lab Copy for Return to CLASS

EPA Form 9110-1

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS

*SEE REVERSE FOR PURPOSE CODE DEFINITIONS



United States Environmental Protection Agency
Contract Laboratory Program

Inorganic Traffic Report
& Chain of Custody Record
(For Inorganic CLP Analysis)

Case No.

28927

1. Project Code	Account Code	2. Region No.	Sampling Co.	4. Date Shipped	Carrier	6. Matrix (Enter in Column A)	7. Preservative (Enter in Column D)				
		6	TNRCC	1/26/01	AIRBORNE EXPRESS	1. Surface Water	1. HCl				
Regional Information		Sampler (Name)		Airbill Number		2. Ground Water	2. HNO3				
		JOHN SVER		2952388331		3. Leachate	3. NaOH				
Non-Superfund Program		Sampler Signature				4. Field QC	4. H ₂ SO ₄				
		SJM				5. Soil/Sediment	5. K ₂ Cr ₂ O ₇				
Site Name		3. Purpose		Daily Action		6. Oil (High only)	6. Ice only				
GULFCO MARINE MAINTENANCE		Lead		CLEM	Long-Term Action	7. Waste (High only)	7. Other (specify in Column D)				
City, State		TSF		PA	FS	8. Other (specify in Column A)	N. Not preserved				
FREEPORT, TX		PRP		REM	RD						
		ST		RI	RA						
		FED		SI	O&M						
		ESI		NPLD							
CLP Sample Numbers (from labels)	A Matrix (from Box 6) Other:	B Conc. Low Med High	C Sample Type: Comp./ Grab Other:	E - RAS Analysis		F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Organic Sample No.	J Sampler Initials	K Field QC Qualifier
				Diss. Metals	Total Metals	Cyanide	NO ₂ /NO ₃	Fluoride	pH	Conduct	
MFO2C3	2	LOW	GRAB	2,3	X X						
MFO2C4	2	LOW	GRAB	2,3	X X						
MFO2D0	2	LOW	GRAB	2,3	X X						
MFO2D1	4	LOW	GRAB	2,3	X X						
MFO2D95	2	LOW	GRAB	2,3	X X						
Shipment for Case Complete? <input checked="" type="checkbox"/>	Page	Sample(s) to be Used for Laboratory QC				Additional Sampler Signatures				Chain of Custody Seal Number(s)	
	1 of 1	MFJD 95									

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	1/26/01 14:00				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	Is custody seal intact? Y/N/nono

DISTRIBUTION

Green - Region Copy
White - Lab Copy for Return to Region

Pink - CLASS Copy
Yellow - Lab Copy for Return to CLASS

EPA Form 0110-1

SEE REVERSE FOR ADDITIONAL STANDARD
*SEE REVERSE FOR PURPOSE CODE DEFINITION

RECTIONS



**United States Environmental Protection Agency
Contract Laboratory Program**

**Inorganic Traffic Report
& Chain of Custody Record
(For Inorganic CLP Analysis)**

CBSE N

28927

1. Project Code	2. Account Code			3. Region No.	Sampling Co.	5. Date Shipped	Carrier	7. Matrix (Enter In Column A)		8. Preservative (Enter In Column D)			
			6	TURCC	1-24-01	AIRBORNE EXPRESS				1. Surface Water	1. HCl		
Regional Information					Sampler (Name)	Airbill Number		2. Ground Water	2. HNO3				
					JOHN SYER	2952390733		3. Leachate	3. NaOH				
Non-Superfund Program					Sampler Signature	6. Ship To:		4. Field	4. H ₂ SO ₄				
					Gohlyan			5. Soil/Sediment	5. K ₂ Cr ₂ O ₇				
Site Name					SENTINEL 116 WASHINGTON STREET, NE HUNTSVILLE, AL 35801 ATTN: KIMBERLY HAYES (256) 534-9800							6. Oil (High only)	6. Ice only
GULFCO MARINE CHARTERS												7. Waste (High only)	7. Other (specify in Column D)
City, State		Site Spill ID										8. Other (specify in Column D)	
FIREBIRD, TX												N. Not Preserved	
CLP Sample Numbers (from labels)	A Matrix (from Box 7) Other:	B Conc.: Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 8) Other:	E - RAS Analysis			F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day Year/Time Sample Collection	I Corresponding CLP Organic Sample No.	J Sampler Initials	K Field QC Qualifier B = Blank S = Spike D = Duplicate R = Rhinse PE = Perform Eval. — = Not a QC Sample
					Date	Total Metals	Crude						
MFO2ZDO	2	low	GRAB	2,3	XX			6-191267-268	GW-14	1/23/01 15:12	F05H3	JS	—
MFPB5	3	low	GRAM	2,3	XX			6-190409-410	GW-15	1/23/01 14:01	F6K89	JS	D(MFO2ZB)
MFP9D	4	low	GRAM	2,3	XX			6-190434-435	GLU-20	1/23/01 15:00	F6K94	JS	B
Shipment for Case Complete? (Y/N)		Page _____ of _____		Sample(s) to be Used for Laboratory QC			Additional Sampler Signatures			Chain of Custody Seal Number(s)			

Chain of Custody Record

Relinquished by: (Signature) <i>C. M. Hayes</i>	Date / Time 1/27/14 12:00	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks: Is custody seal intact? Y/N/none	

Distribution: Green - Region Copy Pink - CLASS Copy
White - Lab Copy for Return to Region Yellow - Lab Copy for Return to CLASS

See Reverse for Additional Standard Instructions

***See Reverse for Purpose Code Definitions**

INORGANIC ANALYSIS DATA SHEET

Lab Name: Sentinel, Inc.

Contract: 68-W-00-085

MF02C3

Lab Code: SENTIN

Case No.: 28927

SAS No.:

SDG No.: MF02C8

Matrix (soil/water): WATER

Lab Sample ID: 36490S

Level (low/med): LOW

Date Received: 01/29/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	22200	-	E	P
7440-36-0	Antimony	3.3	U	N	P
7440-38-2	Arsenic	10.2			P
7440-39-3	Barium	593			P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	0.80	B		P
7440-70-2	Calcium	583000		E	P
7440-47-3	Chromium	11.2			P
7440-48-4	Cobalt	1.8	U		P
7440-50-8	Copper	42.6			P
7439-89-6	Iron	38500		E	P
7439-92-1	Lead	20.3		*	P
7439-95-4	Magnesium	870000			P
7439-96-5	Manganese	2010			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	30.9	B		P
7440-09-7	Potassium	179000			P
7782-49-2	Selenium	1.7	U		P
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	7490000			P
7440-28-0	Thallium	3.6	U		P
7440-62-2	Vanadium	53.7			P
7440-66-6	Zinc	59.8			P
	Cyanide	1.4	U		CA

Color Before: RED

Clarity Before: OPAQUE

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

CN PORTION IS BROWN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Sentinel, Inc.

Contract: 68-W-00-085

MF02C4

Lab Code: SENTIN

Case No.: 28927

SAS No.:

SDG No.: MF02C8

Matrix (soil/water): WATER

Lab Sample ID: 36491S

Level (low/med): LOW

Date Received: 01/29/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9290	-	E	P
7440-36-0	Antimony	3.3	U	N	P
7440-38-2	Arsenic	42.6			P
7440-39-3	Barium	108	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.3	B		P
7440-70-2	Calcium	858000		E	P
7440-47-3	Chromium	1.6	U		P
7440-48-4	Cobalt	1.8	U		P
7440-50-8	Copper	22.3	B		P
7439-89-6	Iron	21900		E	P
7439-92-1	Lead	2.5	U	*	P
7439-95-4	Magnesium	1560000			P
7439-96-5	Manganese	14100			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	17.2	B		P
7440-09-7	Potassium	249000			P
7782-49-2	Selenium	2.0	B		P
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	11400000			P
7440-28-0	Thallium	3.6	U		P
7440-62-2	Vanadium	14.4	B		P
7440-66-6	Zinc	18.3	B		P
	Cyanide	1.4	U		CA

Color Before: BROWN

Clarity Before: OPAQUE

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

43021

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

Lab Name: Sentinel, Inc.

Contract: 68-W-00-085

MF02C6

Lab Code: SENTIN

Case No.: 28927

SAS No.:

SDG No.: MF02C8

Matrix (soil/water): WATER

Lab Sample ID: 36463S

Level (low/med): LOW

Date Received: 01/26/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	118000	-	E	P
7440-36-0	Antimony	3.3	U	N	P
7440-38-2	Arsenic	70.6			P
7440-39-3	Barium	468			P
7440-41-7	Beryllium	3.4	B		P
7440-43-9	Cadmium	2.4	B		P
7440-70-2	Calcium	815000		E	P
7440-47-3	Chromium	67.2			P
7440-48-4	Cobalt	60.6			P
7440-50-8	Copper	266			P
7439-89-6	Iron	95100		E	P
7439-92-1	Lead	86.4		*	P
7439-95-4	Magnesium	1370000			P
7439-96-5	Manganese	8660			P
7439-97-6	Mercury	0.71		N	CV
7440-02-0	Nickel	216			P
7440-09-7	Potassium	281000			P
7782-49-2	Selenium	1.7	U		P
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	9780000			P
7440-28-0	Thallium	3.6	U		P
7440-62-2	Vanadium	178			P
7440-66-6	Zinc	178			P
	Cyanide	1.4	U		CA

Color Before: BROWN

Clarity Before: OPAQUE

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Sentinel, Inc.

Contract: 68-W-00-085

MF02C7

Lab Code: SENTIN

Case No.: 28927

SAS No.:

SDG No.: MF02C8

Matrix (soil/water): WATER

Lab Sample ID: 36464S

Level (low/med): LOW

Date Received: 01/26/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	45100	-	E	P
7440-36-0	Antimony	3.3	U	N	P
7440-38-2	Arsenic	10.2			P
7440-39-3	Barium	260			P
7440-41-7	Beryllium	0.80	B		P
7440-43-9	Cadmium	0.40	B		P
7440-70-2	Calcium	113000		E	P
7440-47-3	Chromium	43.4			P
7440-48-4	Cobalt	17.4	B		P
7440-50-8	Copper	36.4			P
7439-89-6	Iron	38000		E	P
7439-92-1	Lead	24.4		*	P
7439-95-4	Magnesium	89200			P
7439-96-5	Manganese	1360			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	46.8			P
7440-09-7	Potassium	62500			P
7782-49-2	Selenium	1.7	U		P
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	1110000			P
7440-28-0	Thallium	3.9	B		P
7440-62-2	Vanadium	64.9			P
7440-66-6	Zinc	107			P
	Cyanide	1.4	U		CA

Color Before: BROWN

Clarity Before: OPAQUE

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Sentinel, Inc.

Contract: 68-W-00-085

MF02C8

Lab Code: SENTIN

Case No.: 28927

SAS No.:

SDG No.: MF02C8

Matrix (soil/water): WATER

Lab Sample ID: 36405S

Level (low/med): LOW

Date Received: 01/25/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1290	-	E	P
7440-36-0	Antimony	3.3	U	N	P
7440-38-2	Arsenic	15.8			P
7440-39-3	Barium	63.5	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	0.80	B		P
7440-70-2	Calcium	1420000		E	P
7440-47-3	Chromium	1.6	U		P
7440-48-4	Cobalt	1.8	U		P
7440-50-8	Copper	3.0	B		P
7439-89-6	Iron	25500		E	P
7439-92-1	Lead	2.5	U	*	P
7439-95-4	Magnesium	2240000			P
7439-96-5	Manganese	7760			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	3.2	B		P
7440-09-7	Potassium	217000			P
7782-49-2	Selenium	1.7	U		P
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	14800000			P
7440-28-0	Thallium	3.6	U		P
7440-62-2	Vanadium	1.7	U		P
7440-66-6	Zinc	8.7	B		P
	Cyanide	1.4	U		CA

Color Before: COLORLESS

Clarity Before: CLEAR

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

CN PORTION IS ORANGE

INORGANIC ANALYSIS DATA SHEET

MF02C9

Lab Name: Sentinel, Inc.

Contract: 68-W-00-085

Lab Code: SENTIN

Case No.: 28927

SAS No.:

SDG No.: MF02C8

Matrix (soil/water): WATER

Lab Sample ID: 36406S

Level (low/med): LOW

Date Received: 01/25/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	56800		E	P
7440-36-0	Antimony	3.3	U	N	P
7440-38-2	Arsenic	19.0			P
7440-39-3	Barium	509			P
7440-41-7	Beryllium	1.6	B		P
7440-43-9	Cadmium	1.0	B		P
7440-70-2	Calcium	627000		E	P
7440-47-3	Chromium	34.0			P
7440-48-4	Cobalt	11.8	B		P
7440-50-8	Copper	71.6			P
7439-89-6	Iron	52200		E	P
7439-92-1	Lead	45.1		*	P
7439-95-4	Magnesium	1140000			P
7439-96-5	Manganese	3410			P
7439-97-6	Mercury	0.13	B	N	CV
7440-02-0	Nickel	61.4			P
7440-09-7	Potassium	256000			P
7782-49-2	Selenium	1.7	U		P
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	9470000			P
7440-28-0	Thallium	3.6	U		P
7440-62-2	Vanadium	90.8			P
7440-66-6	Zinc	147			P
	Cyanide	1.4	U		CA

Color Before: RED

Clarity Before: OPAQUE

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MF02D0

Lab Name: Sentinel, Inc.

Contract: 68-W-00-085

Lab Code: SENTIN Case No.: 28927 SAS No.: SDG No.: MF02C8

Matrix (soil/water): WATER

Lab Sample ID: 36407S

Level (low/med): LOW

Date Received: 01/25/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	24400	-	E	P
7440-36-0	Antimony	3.3	U	N	P
7440-38-2	Arsenic	12.2			P
7440-39-3	Barium	178	B		P
7440-41-7	Beryllium	0.40	B		P
7440-43-9	Cadmium	0.60	B		P
7440-70-2	Calcium	385000		E	P
7440-47-3	Chromium	14.8			P
7440-48-4	Cobalt	4.2	B		P
7440-50-8	Copper	46.0			P
7439-89-6	Iron	27000		E	P
7439-92-1	Lead	15.7		*	P
7439-95-4	Magnesium	577000			P
7439-96-5	Manganese	1490			P
7439-97-6	Mercury	0.12	B	N	CV
7440-02-0	Nickel	31.2	B		P
7440-09-7	Potassium	187000			P
7782-49-2	Selenium	1.7	U		P
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	5650000			P
7440-28-0	Thallium	3.6	U		P
7440-62-2	Vanadium	44.0	B		P
7440-66-6	Zinc	79.4			P
	Cyanide	1.4	U		CA

Color Before: RED

Clarity Before: OPAQUE

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Sentinel, Inc.

Contract: 68-W-00-085

MF02D1

Lab Code: SENTIN

Case No.: 28927

SAS No.:

SDG No.: MF02C8

Matrix (soil/water): WATER

Lab Sample ID: 36492S

Level (low/med): LOW

Date Received: 01/29/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	48.9	U	E	P
7440-36-0	Antimony	3.3	U	N	P
7440-38-2	Arsenic	2.3	U		P
7440-39-3	Barium	0.90	U		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	0.40	U		P
7440-70-2	Calcium	173	B	E	P
7440-47-3	Chromium	1.6	U		P
7440-48-4	Cobalt	1.8	U		P
7440-50-8	Copper	2.3	U		P
7439-89-6	Iron	26.4	U	E	P
7439-92-1	Lead	2.5	U	*	P
7439-95-4	Magnesium	38.6	U		P
7439-96-5	Manganese	0.70	U		P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	2.0	U		P
7440-09-7	Potassium	66.7	B		P
7782-49-2	Selenium	1.7	U		P
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	3910	B		P
7440-28-0	Thallium	3.6	U		P
7440-62-2	Vanadium	1.7	U		P
7440-66-6	Zinc	4.5	U		P
	Cyanide	1.4	U		CA

Color Before: COLORLESS

Clarity Before: CLEAR

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

FB



INORGANIC ANALYSIS DATA SHEET

Lab Name: Sentinel, Inc.

Contract: 68-W-00-085

MFHX50

Lab Code: SENTIN Case No.: 28927 SAS No.: SDG No.: MF02C8

Matrix (soil/water): WATER

Lab Sample ID: 36465S

Level (low/med): LOW

Date Received: 01/26/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	130000	-	E	P
7440-36-0	Antimony	3.3	U	N	P
7440-38-2	Arsenic	77.7			P
7440-39-3	Barium	501			P
7440-41-7	Beryllium	3.7	B		P
7440-43-9	Cadmium	2.2	B		P
7440-70-2	Calcium	807000		E	P
7440-47-3	Chromium	77.4			P
7440-48-4	Cobalt	66.9			P
7440-50-8	Copper	273			P
7439-89-6	Iron	103000		E	P
7439-92-1	Lead	94.7		*	P
7439-95-4	Magnesium	1420000			P
7439-96-5	Manganese	8460			P
7439-97-6	Mercury	0.79		N	CV
7440-02-0	Nickel	217			P
7440-09-7	Potassium	274000			P
7782-49-2	Selenium	1.7	U		P
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	10000000			P
7440-28-0	Thallium	3.6	U		P
7440-62-2	Vanadium	196			P
7440-66-6	Zinc	201			P
	Cyanide	2.1	B		CA

Color Before: BROWN

Clarity Before: OPAQUE

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

48023

ILM04.1

FORM I - IN

11

INORGANIC ANALYSIS DATA SHEET

Lab Name: Sentinel, Inc.

Contract: 68-W-00-085

MFJD80

Lab Code: SENTIN

Case No.: 28927

SAS No.:

SDG No.: MF02C8

Matrix (soil/water): WATER

Lab Sample ID: 36466S

Level (low/med): LOW

Date Received: 01/26/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	39500	-	E	P
7440-36-0	Antimony	3.3	U	N	P
7440-38-2	Arsenic	12.4			P
7440-39-3	Barium	401			P
7440-41-7	Beryllium	0.60	B		P
7440-43-9	Cadmium	1.0	B		P
7440-70-2	Calcium	696000		E	P
7440-47-3	Chromium	13.4			P
7440-48-4	Cobalt	1.8	U		P
7440-50-8	Copper	40.4			P
7439-89-6	Iron	25900		E	P
7439-92-1	Lead	7.8		*	P
7439-95-4	Magnesium	1710000			P
7439-96-5	Manganese	4300			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	40.8			P
7440-09-7	Potassium	366000			P
7782-49-2	Selenium	1.7	U		P
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	14000000			P
7440-28-0	Thallium	3.6	U		P
7440-62-2	Vanadium	58.2			P
7440-66-6	Zinc	81.6			P
	Cyanide	1.4	U		CA

Color Before: BROWN

Clarity Before: OPAQUE

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Sentinel, Inc.

Contract: 68-W-00-085

MFJD94

Lab Code: SENTIN

Case No.: 28927

SAS No.:

SDG No.: MF02C8

Matrix (soil/water): WATER

Lab Sample ID: 36467S

Level (low/med): LOW

Date Received: 01/26/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	51100	-	E	P
7440-36-0	Antimony	3.3	U	N	P
7440-38-2	Arsenic	49.3			P
7440-39-3	Barium	292			P
7440-41-7	Beryllium	1.7	B		P
7440-43-9	Cadmium	2.0	B		P
7440-70-2	Calcium	883000		E	P
7440-47-3	Chromium	23.0			P
7440-48-4	Cobalt	17.9	B		P
7440-50-8	Copper	114			P
7439-89-6	Iron	52800		E	P
7439-92-1	Lead	70.4		*	P
7439-95-4	Magnesium	1450000			P
7439-96-5	Manganese	8190			P
7439-97-6	Mercury	0.11	B	N	CV
7440-02-0	Nickel	69.6			P
7440-09-7	Potassium	250000			P
7782-49-2	Selenium	1.7	U		P
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	10100000			P
7440-28-0	Thallium	3.6	U		P
7440-62-2	Vanadium	98.0			P
7440-66-6	Zinc	109			P
	Cyanide	1.4	U		CA

Color Before: BROWN

Clarity Before: OPAQUE

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

INORGANIC ANALYSIS DATA SHEET

MFJD95

Lab Name: Sentinel, Inc.

Contract: 68-W-00-085

Lab Code: SENTIN

Case No.: 28927

SAS No.:

SDG No.: MF02C8

Matrix (soil/water): WATER

Lab Sample ID: 36493S

Level (low/med): LOW

Date Received: 01/29/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	39400	-	E	P
7440-36-0	Antimony	3.3	U	N	P
7440-38-2	Arsenic	9.6	B		P
7440-39-3	Barium	340			P
7440-41-7	Beryllium	0.70	B		P
7440-43-9	Cadmium	0.90	B		P
7440-70-2	Calcium	665000		E	P
7440-47-3	Chromium	18.3			P
7440-48-4	Cobalt	1.8	U		P
7440-50-8	Copper	45.4			P
7439-89-6	Iron	41200		E	P
7439-92-1	Lead	15.2		*	P
7439-95-4	Magnesium	1190000			P
7439-96-5	Manganese	2370			P
7439-97-6	Mercury	0.26		N	CV
7440-02-0	Nickel	34.6	B		P
7440-09-7	Potassium	297000			P
7782-49-2	Selenium	1.7	U		P
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	9740000			P
7440-28-0	Thallium	3.6	U		P
7440-62-2	Vanadium	52.6			P
7440-66-6	Zinc	136			P
	Cyanide	2.6	B		CA

Color Before: RED

Clarity Before: OPAQUE

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

CN PORTION IS BROWN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Sentinel, Inc.

Contract: 68-W-00-085

MFJP70

Lab Code: SENTIN

Case No.: 28927

SAS No.:

SDG No.: MF02C8

Matrix (soil/water): WATER

Lab Sample ID: 36494S

Level (low/med): LOW

Date Received: 01/29/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	28800	-	E	P
7440-36-0	Antimony	3.3	U	N	P
7440-38-2	Arsenic	8.0	B		P
7440-39-3	Barium	348			P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	0.60	B		P
7440-70-2	Calcium	831000		E	P
7440-47-3	Chromium	1.6	U		P
7440-48-4	Cobalt	1.8	U		P
7440-50-8	Copper	22.6	B		P
7439-89-6	Iron	31900		E	P
7439-92-1	Lead	2.5	U	*	P
7439-95-4	Magnesium	2020000			P
7439-96-5	Manganese	4320			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	23.4	B		P
7440-09-7	Potassium	372000			P
7782-49-2	Selenium	1.7	U		P
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	14200000			P
7440-28-0	Thallium	3.6	U		P
7440-62-2	Vanadium	37.0	B		P
7440-66-6	Zinc	108			P
	Cyanide	1.4	U		CA

Color Before: RED

Clarity Before: OPAQUE

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

CN PORTION IS BROWN

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

Lab Name: Sentinel, Inc.

Contract: 68-W-00-085

MFJP71

Lab Code: SENTIN

Case No.: 28927

SAS No.:

SDG No.: MF02C8

Matrix (soil/water): WATER

Lab Sample ID: 36468S

Level (low/med): LOW

Date Received: 01/26/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11800	-	E	P
7440-36-0	Antimony	3.3	U	N	P
7440-38-2	Arsenic	9.1	B		P
7440-39-3	Barium	121	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	0.40	U		P
7440-70-2	Calcium	540000		E	P
7440-47-3	Chromium	1.6	U		P
7440-48-4	Cobalt	1.8	U		P
7440-50-8	Copper	26.4			P
7439-89-6	Iron	13700		E	P
7439-92-1	Lead	2.5	U	*	P
7439-95-4	Magnesium	1040000			P
7439-96-5	Manganese	2810			P
7439-97-6	Mercury	0.70		N	CV
7440-02-0	Nickel	10.8	B		P
7440-09-7	Potassium	163000			P
7782-49-2	Selenium	1.7	U		P
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	8550000			P
7440-28-0	Thallium	3.6	U		P
7440-62-2	Vanadium	16.1	B		P
7440-66-6	Zinc	25.9			P
	Cyanide	1.4	U		CA

Color Before: YELLOW

Clarity Before: OPAQUE

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Sentinel, Inc.

Contract: 68-W-00-085

MFJP85

Lab Code: SENTIN

Case No.: 28927

SAS No.:

SDG No.: MF02C8

Matrix (soil/water): WATER

Lab Sample ID: 36408S

Level (low/med): LOW

Date Received: 01/25/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1380	-	E	P
7440-36-0	Antimony	3.3	U	N	P
7440-38-2	Arsenic	15.8			P
7440-39-3	Barium	69.0	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	0.60	B		P
7440-70-2	Calcium	1410000		E	P
7440-47-3	Chromium	1.6	U		P
7440-48-4	Cobalt	1.8	U		P
7440-50-8	Copper	3.7	B		P
7439-89-6	Iron	25100		E	P
7439-92-1	Lead	2.5	U	*	P
7439-95-4	Magnesium	2250000			P
7439-96-5	Manganese	7910			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	3.1	B		P
7440-09-7	Potassium	226000			P
7782-49-2	Selenium	1.7	U		P
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	14800000			P
7440-28-0	Thallium	3.6	U		P
7440-62-2	Vanadium	1.7	U		P
7440-66-6	Zinc	10.2	B		P
	Cyanide	1.4	U		CA

Color Before: COLORLESS

Clarity Before: CLEAR

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

CN PORTION IS YELLOW

INORGANIC ANALYSIS DATA SHEET

Lab Name: Sentinel, Inc.

Contract: 68-W-00-085

MFJP86

Lab Code: SENTIN Case No.: 28927 SAS No.: SDG No.: MF02C8

Matrix (soil/water): WATER

Lab Sample ID: 36409S

Level (low/med): LOW

Date Received: 01/25/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	48.9	U	E	P
7440-36-0	Antimony	3.3	U	N	P
7440-38-2	Arsenic	2.3	U		P
7440-39-3	Barium	0.90	U		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	0.40	U		P
7440-70-2	Calcium	712	B	E	P
7440-47-3	Chromium	2.0	B		P
7440-48-4	Cobalt	1.8	U		P
7440-50-8	Copper	3.5	B		P
7439-89-6	Iron	1420		E	P
7439-92-1	Lead	2.5	U	*	P
7439-95-4	Magnesium	129	B		P
7439-96-5	Manganese	45.1			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	2.2	B		P
7440-09-7	Potassium	131	B		P
7782-49-2	Selenium	1.7	U		P
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	470000			P
7440-28-0	Thallium	3.6	U		P
7440-62-2	Vanadium	1.7	U		P
7440-66-6	Zinc	7.8	B		P
	Cyanide	1.4	U		CA

Color Before: COLORLESS

Clarity Before: CLEAR

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

FB

INORGANIC ANALYSIS DATA SHEET

Lab Name: Sentinel, Inc.

Contract: 68-W-00-085

MFJP87

Lab Code: SENTIN

Case No.: 28927

SAS No.:

SDG No.: MF02C8

Matrix (soil/water): WATER

Lab Sample ID: 36410S

Level (low/med): LOW

Date Received: 01/25/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	48.9	U	E	P
7440-36-0	Antimony	3.3	U	N	P
7440-38-2	Arsenic	2.3	U		P
7440-39-3	Barium	3.8	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	0.40	U		P
7440-70-2	Calcium	1030	B	E	P
7440-47-3	Chromium	1.6	U		P
7440-48-4	Cobalt	1.8	U		P
7440-50-8	Copper	2.3	U		P
7439-89-6	Iron	4830		E	P
7439-92-1	Lead	2.5	U	*	P
7439-95-4	Magnesium	149	B		P
7439-96-5	Manganese	235			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	4.4	B		P
7440-09-7	Potassium	100	B		P
7782-49-2	Selenium	1.7	U		P
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	3940	B		P
7440-28-0	Thallium	3.6	U		P
7440-62-2	Vanadium	1.7	U		P
7440-66-6	Zinc	23.4			P
	Cyanide	1.4	U		CA

Color Before: COLORLESS

Clarity Before: CLEAR

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

FB, CN PORTION IS YELLOW

INORGANIC ANALYSIS DATA SHEET

Lab Name: Sentinel, Inc.

Contract: 68-W-00-085

MFJP88

Lab Code: SENTIN

Case No.: 28927

SAS No.:

SDG No.: MF02C8

Matrix (soil/water): WATER

Lab Sample ID: 36469S

Level (low/med): LOW

Date Received: 01/26/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	48.9	U	E	P
7440-36-0	Antimony	3.3	U	N	P
7440-38-2	Arsenic	2.3	U		P
7440-39-3	Barium	0.90	U		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	0.40	B		P
7440-70-2	Calcium	461	B	E	P
7440-47-3	Chromium	1.6	U		P
7440-48-4	Cobalt	1.8	U		P
7440-50-8	Copper	2.3	U		P
7439-89-6	Iron	7780		E	P
7439-92-1	Lead	2.5	U	*	P
7439-95-4	Magnesium	99.0	B		P
7439-96-5	Manganese	268			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	4.0	B		P
7440-09-7	Potassium	67.9	B		P
7782-49-2	Selenium	1.7	U		P
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	4040	B		P
7440-28-0	Thallium	3.6	U		P
7440-62-2	Vanadium	1.7	U		P
7440-66-6	Zinc	13.8	B		P
	Cyanide	1.4	U		CA

Color Before: COLORLESS

Clarity Before: CLEAR

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

FB, CN PORTION IS YELLOW

INORGANIC ANALYSIS DATA SHEET

Lab Name: Sentinel, Inc.

Contract: 68-W-00-085

MFJP90

Lab Code: SENTIN

Case No.: 28927

SAS No.:

SDG No.: MF02C8

Matrix (soil/water): WATER

Lab Sample ID: 36411S

Level (low/med): LOW

Date Received: 01/25/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	48.9	U	E	P
7440-36-0	Antimony	3.3	U	N	P
7440-38-2	Arsenic	2.3	U		P
7440-39-3	Barium	0.90	U		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	0.40	U		P
7440-70-2	Calcium	158	U	E	P
7440-47-3	Chromium	1.6	U		P
7440-48-4	Cobalt	1.8	U		P
7440-50-8	Copper	2.3	U		P
7439-89-6	Iron	26.4	U	E	P
7439-92-1	Lead	2.5	U	*	P
7439-95-4	Magnesium	38.6	U		P
7439-96-5	Manganese	1.8	B		P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	2.0	U		P
7440-09-7	Potassium	60.6	B		P
7782-49-2	Selenium	1.7	U		P
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	3790	B		P
7440-28-0	Thallium	3.6	U		P
7440-62-2	Vanadium	1.7	U		P
7440-66-6	Zinc	4.5	U		P
	Cyanide	1.4	U		CA

Color Before: COLORLESS

Clarity Before: CLEAR

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

FB

INORGANIC ANALYSIS DATA SHEET

Lab Name: Sentinel, Inc.

Contract: 68-W-00-085

MFJP91

Lab Code: SENTIN Case No.: 28927 SAS No.: SDG No.: MF02C8

Matrix (soil/water): WATER Lab Sample ID: 36470S

Level (low/med): LOW Date Received: 01/26/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	48.9	U	E	P
7440-36-0	Antimony	3.3	U	N	P
7440-38-2	Arsenic	2.3	U		P
7440-39-3	Barium	0.90	U		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	0.40	U		P
7440-70-2	Calcium	158	U	E	P
7440-47-3	Chromium	1.6	U		P
7440-48-4	Cobalt	1.8	U		P
7440-50-8	Copper	2.3	U		P
7439-89-6	Iron	26.4	U	E	P
7439-92-1	Lead	2.5	U	*	P
7439-95-4	Magnesium	38.6	U		P
7439-96-5	Manganese	1.9	B		P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	2.0	U		P
7440-09-7	Potassium	56.6	B		P
7782-49-2	Selenium	1.7	U		P
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	3820	B		P
7440-28-0	Thallium	3.6	U		P
7440-62-2	Vanadium	1.7	U		P
7440-66-6	Zinc	4.5	U		P
	Cyanide	1.4	U		CA

Color Before: COLORLESS

Clarity Before: CLEAR

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

FB